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CIA-RDP86-00513R000102120015-9

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ARONOV, Mark Isaakovich, inzh.; GUSEVSKIY, Yuriy Il'ich, inzh.

Operational characteristics of a transistorised magnetic amplifier
in the region of negative control currents, Izv.vys.ucheb.zav.;
elektromekh. 8 no.8:874-880 '65.

(MIRA 18:10)

AUTHOR: ^{P.} Aronov, M., Co-worker of the Sevastopol' Biological Station
of the USSR Academy of Sciences SOV-4-58-7-8/22

TITLE: Swimming Among Fish..... (Kogda plavayesh' sredi ryb....)

PERIODICAL: Znaniye - sila, 1958, Nr 7, pp 16-18 (USSR)

ABSTRACT: In this article the author gives a detailed description of his skindiving experiences. His observations concerning the behavior and reactions of fish are generally known. He quotes the research work done in this field by the Soviet physiologist A.I. Karamyan. There are 14 sketches.

Card 1/1

ARONOV, M.P.

External taste organs of rockling. Nauch. dokl. vys. shkoly; biol.
nauki no.4:38-41 '59. (MIRA 12:12)

1. Rekomendovana Sevastopol'skoy biologicheskoy stantsiyey
AN SSSR.
(Codfish) (Sense organs--Fishes)

ARONOV, M.P.

Role of sense organs of the Black Sea whiting in its search for
food. Trudy SBS 11:229-237 '59. (MIRA 13:5)
(Black Sea--Codfish) (Sense organs--Fishes) (Fishes--Food)

ARONOV, M.P.

Conditioned reflex activity in some fishes of the Black Sea as
related to their ecological and physiological characteristics.
Trudy SBS 12:345-378 '59, (MIRA 14:10)
(FISHES) (CONDITIONED RESPONSE)

ARONOV, M. P., Cand Biol Sci -- (diss) "Ecologo-physiological features of the sense organs and the feeding reactions of some Black Sea fish." Moscow, 1960. 20 pp; (Academy of Sciences USSR, Inst of Animal Morphology im A. N. Severtsev); 150 copies; price not given; (KL, 25-60, 129)

ARONOV, M.P.

Role of sense organs in the feeding of (*Sargus annularis* L.) and
some characteristics of its schooling behavior. Trudy SBS 13:266-
274 '60. (MIRA 14:3)
(Sea bream) (Sense organs--Fishes) (Fishes--Behavior)

ARONOV, M. P.

Taste and smell in fishes. Znan.sila 35 no.8:28-29 Ag '60.
(MIRA 13:9)

1. Sotrudnik Sevastopol'skoy biostantsii AN SSSR.
(Sense organs--Fishes)

ARONOV, M.P.

Role of sense organs in the search for food in gray mullets (*Mugil
auratus* Risso). Biol. MOIP. Otd. biol. 65 no. 4:46-51 J1-Ag '60.
(GRAY MULLET) (SENSE ORGANS--FISHES) (FISHES--FOOD) (MIRA 13:10)

ARONOV, M.P.

Some ecophysiological characteristics of sense organs and food
reactions in fishes. Biul. MOIP. Otd. biol. 65 no. 4:148-149
Jl-Ag '60. (SENSE ORGANS--FISHES) (FISHES--FOOD) (MIRA 13:10)

ARONOV, M.P.

Statistical analysis of the differentiation ability of some
fishes of the Black Sea. Trudy SBS 14:286-291 '61. (MIRA 15:4)
(Black Sea--Fishes) (Vision) (Conditioned response)

ARONOV, M.P.

Role of sense organs in the feeding of *Corvina umbra* L. Vop. ikht.
1 no. 1:194-199 '61. (MIRA 14:5)

1. Sevastopol'skaya biologicheskaya stantsiya Akademii nauk SSSR.
(Black Sea—Sciaenidae) (Sense organs—Fishes)

MANTEYFEL', B.P.; ARONOV, M.P.

"Commercial fishing techniques" by F.I. Baranov. Reviewed by
B.P. Manteifel', M.P. Aronov. Vop. ikht. 2 no. 4: 754-758 '62.
(Fisheries) (Baranov, F.I.) (MIRA 16:2)

ARONOV, M.P.

Ecological and physiological characteristics of sense organs in some fishes as related to their reactions to food. Vop. ekol. 5:8-9, '62. (MIRA 16:6)

1. Biologicheskaya stantsiya AN UkrSSR, Sevastopol'. (Sense organs--Fishes)

ARONOV, M.P.

Changes in the frequency spectrum of the human encephalogram under vestibular and optokinetic effects. *Fiziol.zhur.* 51 no.4:413-419 Ap '65. (MIRA 18:6)

1. Institut vysshey nervnoy deyatel'nosti i neyrofiziologii AN SSSR, Moskva.

ARONOV, M.L., inzh.

Experience in operating remote control devices in the Uzbek Electric
Power System. Trudy VNIIE no.7:17-26 '58.
(MIRA 16:12)

ALONOV, Y.S.

LA 246724

USSR/Medicine - Bacillus prodigiosus

Feb 53

"Investigation of the Effectiveness of Treatment
With B. prodigiosus in Animal Experiments," M.S.
Aronov, K.I. Boriskina, Chair of Microbiol and
Operative Surg, Kuybyshev Med Inst

"Zhur Mikrobiol, Epidemiol, i Immunobiol" No 2, p88

Although B. prodigiosus generates inflammation and
sepsis by itself, it prevents suppuration and in-
flammation when introduced into a wound together
with staphylococci. Gradually increasing doses of
B. prodigiosus produced immunity against lethal
doses of staphylococci in rabbits.

246724

ARONOV, H. S.

ARONOV, H. S. - "Topographic-anatomic Properties of the Cervical Regions and Access to the Rear Cranial Cavity." Min of Public Health RSFSR, Kuybyshev State Med Inst, Kuybyshev, 1955 (Dissertations for Degree of Doctor of Medical Sciences)

SO: Knizhnaya Letopis' No. 26, June 1955, Moscow

ASKALONOV, I.N., professor; ARONOV, M.S., dotsent

Nerve healing in an amputation stump under aseptic conditions and
with suppuration. Ortop., travm. protez. 17 no.5:21-23 S-0 '56.
(MIRA 10:1)

1. Is kafedry operativnoy khirurgii (sav. - prof. I.N.Askalonov)
Kuybyshevskogo meditsinskogo instituta.

(AMPUTATION STUMPS

healing of nerves in aseptic cond. & in suppuration)

(NERVES, PERIPHERAL, surgery,

healing in amputation stumps in aseptic cond. & in
suppuration in dogs)

ARONOV, M.S., doktor med.nauk

Influence of the nervous system on the healing of wounds. Med.
zhur.Uzb. no.10:45-47 0 '58. (MIRA 13:6)

1. Iz kafedry operativnoy khirurgii i topograficheskoy anatomii
Andizhanskogo gosudarstvennogo meditsinskogo instituta.
(NERVOUS SYSTEM) (WOUNDS AND INJURIES)

ASKALONOV, I.N., prof.; ARONOV, M.S., dots.

Comparative evaluation of some methods of bone treatment in amputation under aseptic conditions and in suppurations; experimental data.
Ortop.travm. i protez. 20 no.2:30-33 P '59. (MIRA 12:12)

1. Iz kafedry operativnoy khirurgii (zav. - prof. I.N. Askalonov)
Knybyshevskogo meditsinskogo instituta.
(AMPUTATION, exper.

bone treatment in aseptic cond. & in suppurations,
comparative methods in dogs (Rus))

ARONOV, M.S., prof.

Location of the root and branching zones of occipital nerve trunks
and their connection with the form of the occiput. Med, zhur. Uzb.
no.9:48-50 S '61. (MIRA 15:2)

1. Iz kafedry topograficheskoy anatomii i operativnoy khirurgii
Andishanskogo meditsinskogo instituta,
(NECK...INNERVATION) (OCCIPITAL BONE)

BARONOV, N.

BARANOV, M., kandidat tekhnicheskikh nauk; KRICHVSKIY, Z., inzhener;
ARONOV, N., tekhnik.

Preheating for welding automobile engine cylinder blocks.
Avt.transp.33 no.1:18-21 Ja'55. (MLRA 8:3)
(Automobile--Engines)(Welding)

PRO NO. 1115

✓ Cutting down the amount of formaldehyde at the prepara-
tion of wort. S. B. Akimov and M. I. Fedotkin, Moscow
Alcohol Trust. ~~Abstract~~ From 21, No. 2, 1954
(10:5). The amt. of HCHO used to disinfect 1 kg. of green
material is usually 25 g. of a 40% soln. diss. in 1 to 1.1 water.
It was found that this amt. can be cut down to 15 g. if the
extends the time of action from 30 to 50 min.

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Aronov, N.B.

USSR /Chemical Technology. Chemical Products
and Their Application

I-31

Fermentation industry

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 32858

Author : Aronov N.B.

Title : The Quality and Consumption Norms of Malt

Orig Pub: Spirt. prom-st', 1956, No 4, 32-34

Abstract: Data are considered which indicate the appropriateness of a considerable reduction in malt expended for starch saccharification in the production of alcohol.

Card 1/1

DOTSSENKO, Nikolay Illarionovich, inzh.: Prinimali uchastiye: ARONOV, N.V.,
starshiy mekhanik; KUVYRKIN, N.I., starshiy mekhanik; ORLOVSKIY,
V.I., starshiy mekhanik; PETROVICH, A.P., starshiy mekhanik;
PETROV, V.V., inzh.-konstruktor. YEFREMOV, V.V., prof., doktor
tekhn.nauk, red.; YABLOKOV, V.I., red.; ZUYEVA, N.K., tekhn.red.

[Electric pulsation welding for building up metal in the repair of
automobile parts] Elektroimpul'snaya naplavka metalla pri remonte
avtomobil'nykh detalei. Moskva, Nauchno-tekhn.izd-vo avtotransp.
lit-ry, 1958. 57 p. (MIRA 13:5)
(Automobiles—maintenance and repair) (Electric welding)

ARONOV, O., elektromekhanik

Mechanization of the reseating of valves on the motorship
"Repino." Mor. flot 21 no.12:22-24 D '61. (MIRA 14:12)

1. Teplokhod "Repino" Baltiyskogo parokhodstva.
(Motorships--Maintenance and Repair)
(Valves)

ARONOV, O.B., gvardii podpolkovnik tekhnicheskoy sluzhby

Taking down the operator of the transmitter of a bombsight on
a barogram. Vest.Vozd.Fl. no.5:85 My '60. (MIRA 13:7)
(Radar in aeronautics) (Bombsights)

ARONOV, O. L.

42039: ARONOV, O. L.; TATEVSKIY, V. M.; FROST, A. V. - Issledovanie potatsionnoy izomerii
hekotorykh I - Digalogenogtanov metodom kombinatsionnogo rasseyaniya sveta.
(Kratkoe sodержanie doklada.) Izvestiya akad. Nauk SSSR, Seriya Fiz., 1948,
No. 5, S. 666

SO: Letopis' Zhurnal'nykh Statey, Vol. 47, 1948.

ARONOV, O. L.

Aronov, O. L. - Research in rotational isomerism by the combination light scattering method. (Report) "Combination scattering spectra of 1, 1, 2, 2-tetrachloroethane at various temperatures," Vestnik Mosk. un-ta, 1948, No. 11, p. 137-40 -- Bibliog: p. 140

So: U-3566, 15 March 53, (Letopis 'Zhurnal Snykh Statey, No. 13, 1949)

ARCHIV O.L.

CA
Investigation of the rotation isomerism of 1,2-dihaloethanes by the method of Raman spectra. O. L. Aronov, V. S. Tatevskii, and A. V. Prost (Moscow State Univ.). Doklady Akad. Nauk S.S.S.R. 60, 397-399 (1948).—The equil. const. between the 2 forms of 1,2-C₂H₄Cl₂ was detd. from the ratio of the intensities *I* of 2 Raman lines, by $K = A(I_1/I_2) = AK'$, the subscripts 1 and 2 referring, resp., to the frequencies 753 and 653 cm.⁻¹, the 1st belonging to the isomer persisting on freezing, the 2nd to that disappearing on freezing (gauche according to Mitsunuma); between -31 and +96° (the variation of *A* in that temp. interval being only about 0.2%, and disregarded), $K' = \text{const.} = 1.12 \pm 0.09$, i.e., the ratio of the isomers does not vary in this range. Thus, disappearance of the 2nd isomer can occur only in the solid state or else very close to freezing. In the case of 1,2-C₂H₄ClBr, the ratio of the intensities of the 725 and 607 cm.⁻¹ lines

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Voroshilov Sci. Res. Inst. Org. By-Products and Dyes,
48-17

(the former pertaining to the trans form) remains const. = 1.08 ± 0.09 between -13.5 and +93°, and so does the ratio 725/629 = 2.31 ± 0.14 ; only the ratio 725/600 increases slowly with the temp., from 1.83 to 2.20 between the temp. limits stated. For 1,2-C₂H₄Br₂, the ratios of the intensities 659/551, at 10, 60, 97, and 128°, are 0.61, 4.43, 3.70, and 3.10. Values of the heat *Q* of transition between the isomers vary in some cases with the Raman lines used: 1,2-C₂H₄Cl₂ (from 753/653) $Q = 140$ cal./mole; 1,2-C₂H₄ClBr (725/607) $Q = 170$, (725/629) $Q = 170$, (725/600) $Q = 160$; 1,2-C₂H₄Br₂ (659/551) -2160 ± 180 (between 10 and 128°), (659/551) -2220 ± 230 (between 10 and 97°), (659/551) -2390 ± 300 (between 10 and 60°), av. -2420 ± 250.
N. Thon

ARONOV, O. I.

Hindered rotation in the 1,2-dihaloethane series. O. I. Aronov, V. M. Tatevskii, and A. Frost (Moscow State Univ.). *Doklady Akad. Nauk S.S.S.R.* 60, 1177-81 (1948); cf. preceding abstr.—The ratio of the intensities I of the Raman lines 763/653 cm^{-1} of 1,2- $\text{C}_2\text{H}_4\text{Cl}_2$ was detd. in various solvents: pure liquid 1.12; in CCl_4 (75.2, 50.3, 24.6 mole % of 1,2- $\text{C}_2\text{H}_4\text{Cl}_2$) 1.37, 1.08, 3.17; in C_6H_6 (78.7, 61.4, 23.9) 1.17, 1.23, 2.63; in cyclohexane (75.2, 50.2, 25.4) 1.24, 1.03, 2.70; in C_6H_6 (78.7, 61.4, 23.9) 1.21, 1.47, 2.10; in C_6H_6 (88.7, 63.4, 25.4) 1.14, 1.13, 1.26; in EtOH (88.0, 51.0) 1.04, 1.20; in PhNO_2 (43.5, 23.1) 0.93, 0.84. For 1,2- $\text{C}_2\text{H}_4\text{Br}_2$, lines 650/651 (the variations at 100 mole % are due to insufficient constancy of the temp.): in CCl_4 (100, 84.0, 43.3, 19.3) 7.0, 7.2, 6.0, 0.2; in C_6H_6 (100, 60.4, 22.0) 7.0, 4.5, 2.7; in cyclohexane (100, 82.5, 54.1, 21.8) 0.1, 8.0, 6.3, 5.3; in C_6H_6 (100, 42.4, 21.4) 7.0, 7.2, 7.8; in C_6H_6 (100, 46.7, 15.2) 7.0, 5.7, 2.0; in EtOH (100, 60.1, 12.7) 0.1, 8.9, 4.6; in PhNO_2 (100, 41.7, 15.1) 0.1, 4.1, 2.1. For 1,2- $\text{C}_2\text{H}_4\text{Cl}_2$, the dependence of the equil. const. of the 2 rotation isomers ($K = I_1/I_2$) on the solvent is great-

est in the case of nonpolar solvents. Almost no change is found in solvents with a dipole moment close to that of $\text{C}_2\text{H}_4\text{Cl}_2$ itself, e.g. EtOH . Some lowering of K , as compared with the pure liquid, is found in solvents with a dipole moment higher than that of $\text{C}_2\text{H}_4\text{Cl}_2$. The effect of a nonpolar solvent being primarily one of diln., it follows that the 1st form is little polar or nonpolar, while the 2nd form has a higher dipole moment. A solvent with a high dipole moment shifts the equil. in favor of the 2nd form. Strikingly, C_6H_6 behaves more like a solvent of medium polarity, rather than as a nonpolar liquid; this may be

due to its polarizability, giving rise to induced dipole moments. The foregoing considerations are not applicable to 1,2- $\text{C}_2\text{H}_4\text{Br}_2$.

N. Thon

ARONOV, O.L.

CA

Rotation isomerism of 1,2-dichloroethane and of 1,2-dibromoethane in solution at different temperatures. O. L. Aronov, V. M. Tulevskii, and A. V. Frost (Moscow State Univ.). *Doklady Akad. Nauk S.S.S.R.* 60, No. 8, 1343-5 (1978). --If the role of a nonpolar solvent (cf. preceding abstr.) consists, as a 1st approximation, in decreasing the orienting interaction of the solute mols., then increasing the orienting interaction between the rotation isomers should shift the equil. between the rotation isomers toward its value in the ideal gas state. Depts. of the ratio of the intensities of the Raman lines 753/653 cm^{-1} of 1,2- $\text{C}_2\text{H}_4\text{Cl}_2$ in various solvents (concn. of $\text{C}_2\text{H}_4\text{Cl}_2$ in mole %) at different temps., gave: in C_6H_6 (23.2) at 12 and 15°, 2.11 and 1.80; in cyclohexane (21.9) at 13, 80°, 2.73, 2.04, and 1.81; in cyclohexane (21.9) at 13, 18, and 81°, 1.39, 1.47, and 1.33; in C_6H_6 (21.2) at 22, 61, and 81°, 1.30, 1.26, and 1.03. Hence, the heats of transition Q (in cal./mole) between the isomers at the given concns. and in the temp. ranges stated, are: in

C_6H_6 -807 $\pm$ 450, in cyclohexane -807 $\pm$ 480, in C_6H_6 -1230 $\pm$ 330, in C_6H_6 -80 $\pm$ 293, pure liquid Q $\approx$ 140 (between -31 and +95°). Thus, in soln. (with the exception of C_6H_6) $Q \neq 0$, in contrast to the pure liquid. The closeness of the Q in C_6H_6 and in cyclohexane is remarkable. Data for the ratio of the intensities 650/551 cm^{-1} for 1,2- $\text{C}_2\text{H}_4\text{Br}_2$ are: in C_6H_6 (34.9) at 15, 52 and 80°, 3.19, 2.56, and 1.21; in C_6H_6 (34.9) at 17, 58, and 80°, 7.38, 6.96, and 4.42; in CCl_4 (11.6) at 21, 59, and 81°, 5.30, 2.81, and 1.09; in C_6H_6 (15.2) at 18, 59, and 81°, 5.73, 3.02, and 2.81. Hence, Q (cal./mole) are: in C_6H_6 -2900 $\pm$ 270, in C_6H_6 -1580 $\pm$ 290, in CCl_4 -2260 $\pm$ 320, in C_6H_6 -2280 $\pm$ 300, in pure liquid -2420 $\pm$ 250 (between 10 and 125°). All Q are close, except in C_6H_6 ; the cause of the deviation is not clear. N. Thon

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ACC NR:

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EWI(m)/EMP(w)/EMP(v)/EMP(k)

IJP(c) EM

SOURCE CODE: UR/0229/66/000/007/0040/0042

AUTHORS: Aronov, O. N.; Maksimov, Yu. I.

ORG: none

TITLE: The use of self-excited synchronous generators in electric propeller apparatus

SOURCE: Sudostroyeniye, no. 7, 1966, 40-42

TOPIC TAGS: marine equipment, electric generator unit, volt ampere characteristic, error correction, electric generator, electric motor, semiconductor rectifier/MSA 72-4A electric generator, VKD-200 semiconductor rectifier, PN-100 electric motor

ABSTRACT: This paper presents an analysis of synchronous generators (with systems of amplitude-phase compounding and voltage correction) used in modern marine electric power apparatus. Analysis of the external characteristics of the generator for various settings of the stator-current correction shows that a synchronous generator with a system of amplitude-phase compounding and a choke can be used in electric propeller apparatus (see Fig. 1). Ac-dc propeller apparatus can operate with two correctors (voltage and current), controlling the assigned stator current and the maximum voltage of the generator. The most probable emergency condition for the ac-dc propeller apparatus is malfunctioning of the corrector. Ac-dc propeller apparatus permits the use of synchronous generators in the marine power station, ensures smooth control of speed and the necessary anchorage current when the propeller is wedged.

Card 1/2

UDC: 626.12-83

LUKOMSKIY, Yu.A.; ARONOV, O.N.

Use of a self-adjusting mathematical model for the determination
of correcting feedback parameters of automatic control systems.
Izv.vys.ucheb.zav.; prib. 7 no.6:26-31 '64.

(MIRA 18:2)
1. Leningradskiy elektrotekhnicheskiy institut imeni Ul'yanova
(Lenina). Rekomendovana kafedroy elektrooborudovaniya i
avtomatizatsii sudov.

ARONOV, O.N., elektromekhanik

Steering gear with an electric drive and magnetic amplifier on
motorships of the "Krasnograd" type. Biul.tekh.-ekon. inform.
Tekh.upr.Min.mor.flota 7 no.10:71-82 '62. (MIRA 16:9)

1. Teplokhod "Kimovsk".

(Steering gear--Electric driving)
(Magnetic amplifiers)

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ARONOV, P. I.

SMIRENKIN, Petr Pavlovich, professor; ARONOV, P. I., redaktor; AKATOVA, V. G.,
redaktor izdatel'stva; ZHOROV, D. M., tekhnicheskii redaktor.

[Foundations and footings] Osnovaniia i fundamenty. Moskva, Izd-vo
M-va kommun.khoziaistva RSFSR, 1956. 189 p.
(Foundations) (MLRA 10:4)

CZECHOSLOVAKIA/Theoretical Physics - General

B-1

Iss Jour : Ref Zhur - Fizika, No 3, 1959, No 4826

Author : Aronov R.A.

Inst : _____

Title : Hypothesis of Continuity of Space and Time

Orig Pub : Pokroky mat., fys. a astron., 1958, 3, No 1, 90-104

Abstract : See Referat Zhur - Fizika, 1958, No 3, 5126

Card : 1/1

ARONOV, R.A. (Kishinev)

Evolution of space and time concepts. Fiz.v shkole 21 no.3:11-16
My-Je '61. (MIRA 14:8)

(Space and time)

ARONOV, R.E.

Commission on methods for testing structures. Izv. ASiA
no.1:116-117 '60.

(MIRA 13:9)

1. Uchenyy sekretar' komissii po metodike issledovaniya sooruzheniy
Akademii stroitel'stva i arkhitektury SSSSR.
(Building materials--Testing)

ARONOV, R. I.

ARONOV, R. I. - Kand. tekhn. nauk dots. Nauchno - issledovatel'skiy, institut
po stroitel'stvu Ministerstva Neftyanoy Promyshlennosti i KAMERSHTEIN, A. G. -
Kand. Tekh. Nauk.

Issucheniye prichin vibratsii gazoprovodov i razrabotka meropriyatiy po ikh
ustraneniyu Page 86

SO: Collection of "nnotations of Scientific Research Work on Construction,
completed in 1950,
Moscow, 1951

ARONOV, R. I.

ARONOV, R. I. Kand. tekhn. nauk. dots. Nauchno-issledovatel'skiy institut po
stroitel'stvu Ministerstva neftyanoy promyshlennosti i KAMERSHTEIN, A. G. -
Kand. Tekh. nauk. i DOLGOV, V. K. - Inzhener i PETROV, I. P. - Inzhener

Izucheniye napryazheniy v krivolineynykh uchastkakh truboprovodov s uchetom
zashchemleniya v grunte. Page 86

SO: Collection of Annotations of Scientific Research Work on Construction,
completed in 1950,
Moscow, 1951

ARONOV, R.I., kand.tekhn.nauk, dots., laureat Stalinskoy premii; KAMERSHTIYN,
A.G., kand.tekhn.nauk, laureat Stalinskoy premii

Choking of pipelines in the soil and characteristics of their
operation in mining areas. Trudy VNIISTroinefti no.5:35-53
'53. (MIRA 12:2)
(Pipelines) (Strains and stresses) (Subsidences (Earth movements))

ARONOV, R.I., kand.tekhn.nauk,dots.,laureat Stalinskoy premii

Investigating conditions of interaction between pipes and soil
during the longitudinal expansion of a pipeline. Trudy VNIISTroinefti
no.5:54-71 '53. (MIRA 12:2)
(Pipelines--Testing) (Strains and stresses) (Soil mechanics)

ARONOV, R.I.; kand. tekhn. nauk, dots., laureat Stalinskoy premii

Determining the state of stress of a structure by means of
consecutive markings. Trudy VNIISTroinefti no.5:94-99 '53,
(MIRA 12:2)

(Strains and stresses)

(Metals--Testing)

ARONOV, R. L.

SA

621.313.333 - 82 2149

"Edge effect" in induction motors with open magnetic field. SHYIMMAN, G. I., AND ARONOV, R. L. *Elektricheskoe* (No 2) 34-9 (1947) in Russian.—An analytical investigation of asynchronous motors with open arc-shaped and flat stators is presented. Formulae for secondary currents and their time relation to primary currents are derived, and shown to yield, compared with conventional motors, an additional "edge" effect pulsation with twice the primary frequency independent of rotor velocity.

621.313.333 : 621.316.726 :
621.316.718 - 82 see Ahar, 2192

ASD-5LA METALLURGICAL LITERATURE CLASSIFICATION

ARONOV, R. L.

PAQ728

USSR/Electricity
Motors, Electric
Magnetization

Apr 1948

"Approximation of the Magnetization Curve," Prof R.
L. Aronov, Dr Tech Sci, Khar'kov Elektrotech Inst,
5 pp

"Elektrichesv" No 4

Analyses of electrical motors and apparatus requires
use of formulas which approximate magnetization
curve. Formulates requirements for analytic repre-
sentations of magnetization curves and on basis of
requirements recommends new modifications for some
of previously suggested formulas.

69T28

ARONOV, R. L. Prof

PA 171T21

USSR/Electricity - Electric Motors
Motor Design

Oct 50

"Heating of Electric Motors During Repeated
Short-Time Duty," Prof R. L. Aronov, Dr Tech
Sci, Khar'kov Elec Eng Inst

"Elektrichestvo" No 10, pp 13-17

Average loss and mean-square value methods of
selecting electric motors have often proved un-
satisfactory, particularly when using large
amounts of active materials and when duty cycle
is low. Proposes methods of determining maximum
permissible loads and of calculating heating pro-
cesses in newly designed electric motors.

171T21

ARONOV, Prof R. L.

178T33

USSR/Electricity - Motors, DC
Starting

Dec 50

"Calculating Starting Resistances for DC Motors," Prof
R. L. Aronov, Dr Tech Sci, Khar'kov Elec Eng Inst

"Elektrichestvo" No 12, pp 64, 65

Suggests unique method of calcg starting resistances
for dc motors with independent, series, or compound
excitation. Submitted 19 Jul 49.

178T33

ARONOV, R. L.

USSR/Electricity - Motors, Induction

Jul 51

"Starting of Induction Motors," Prof R. L. Aronov,
Dr Tech Sci, Khar'kov Elec Eng Inst

"Elektrichestvo" No 7, pp 39-43

The use of induction motors for elec drives imposing severe starting conditions requires the development of max starting torque. Construction of the starting diagram is made more difficult when there are only a few stages in the starting process and the starting time is small. Proposes new variations of the starting diagram which apply to the above cases. Submitted 24 Oct 49.

199T20

ARONOV, S.

Utilize food waste to feed pigs. Zhil. kom. khoz. 5 no2:6-7'55.

1. Tekhnoruk kontory po sboru bytovykh otkhodov Moszhilupravle-
niya.

(Moscow--Refuse and refuse disposal)

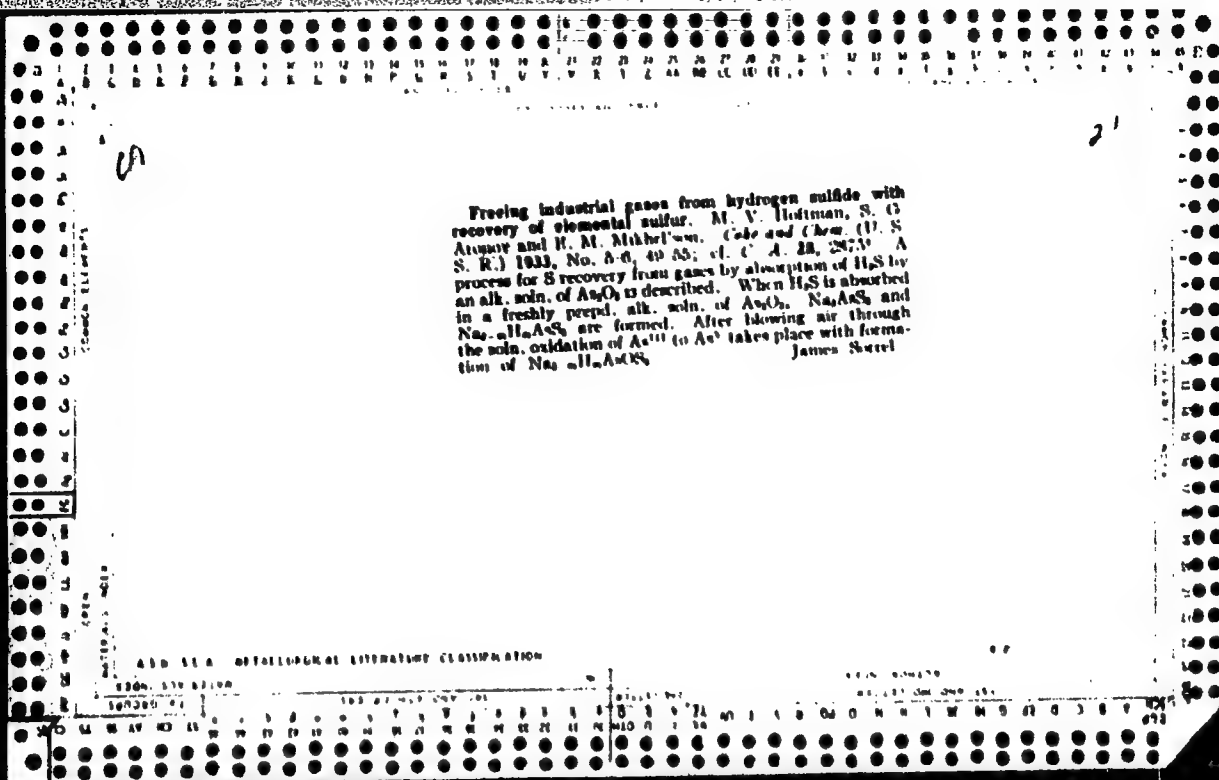
ARONOV, S. G. Ca																										21																									
PROCESSES AND PROPERTIES INDEX																																																			
The regeneration of sulfur in the coking of coal. M. V. e Hofman and S. G. Aronov. <i>Khim. Tverdogo Topliva</i> 1, No. 6, 17-28(1950). S was absorbed from the gas by a liquid composed of 60 cc. of 15% Na₂CO₃ soln., 50 cc. of a 20% FeCl₃ soln. and 5 cc. of a 10% NiSO₄ soln. Up to 71% of the S was regenerated in accordance with the reaction $4FeS + 3O_2 + 6H_2O = 4Fe(OH)_3 + 4S$. A. A. Brechtlingk																																																			
ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION																																																			
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1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
PROCESSES AND PROPERTIES INDEX																																																			
10																										21																									
The balance of sulfur in the coking of coals in the Donetsk plants N. (1). Atomov. Khim. Zavodov. Teplica 2. No. 1, A2 (1970017) - S was detd. in products from 14 metallurgical and coke plants, including tar, gasdust, gas, etc. S in the gases was 3.63-27.03 g. per cu. m. The av. distribution of S was: in coke 0.6-9; in gases, 11.8-19.0, org. S 0.83%; in tar 1.15; in gas water 0.70; total 89.60% and loss 10.40%. A. A. B. bilinek																																																			
ADD-55A METALLURGICAL LITERATURE CLASSIFICATION																																																			

[illegible]

ea Decoupling of industrial gases with recovery of elementary sulfur. I. M. V. Hofman and S. G. Aronov. <i>Coal and Chem.</i> (U. S. S. R.) 1933, No. 1, 41-50.—The iron-soda process for elementary-S recovery from coke-oven gas developed by Kharkov Coal-Chem. Inst. is described. The chemistry of the process is as follows: absorbing liquid (a 0.5-1% soda soln. + 0.3-0.5% Fe(OH)₃ in suspension) is circulated counter-current with gas contg. H₂S in an absorption app. The reactions are: $H_2S + Na_2CO_3 = NaHS + NaHCO_3$; $3NaHS + 2Fe(OH)_3 = 2FeS + S + 3NaOH + 3H_2O$. To regenerate the absorbing liquid air is blown through the soln. The reactions are: $4FeS + 3O_2 + 6H_2O = 4Fe(OH)_3 + 4S$; $2NaHCO_3 = Na_2CO_3 + CO_2 + H_2O$; $NaHS + NaHCO_3 = H_2S + Na_2CO_3$. Some other secondary reactions also take place forming Na₂S₂O₃, NaCNS, etc., which result in some loss of the absorbing liquid. A semi-plant was constructed and operated to		study the technology of the process. This exptl. plant consisted of a scrubber, a vertical and a horizontal regenerator, 3 pumps, compressor and a centrifuge. It was found possible to remove practically all H₂S from the gas. The yield of elementary S was 70-75% of the total S absorbed. From 20 to 30% of S remained in combination with non-regenerable parts of absorbing liquid. The elementary S contained 40-50% moisture and 2% entrapped Fe(OH)₃. II. Iron-ammoniacal method. M. V. Hofman, S. G. Aronov, S. E. Senichenko and M. H. Khvat. <i>Ibid.</i> No. 2, 47-53.—A similar study was made with the iron-ammoniacal method. The chemistry of this method consisted in: scrubbing the coke-oven gas with a weak soln. of NH₄OH with Fe(OH)₃ in suspension. The reactions are: $NH_3 + H_2S = NH_4HS$; $2NH_3 + H_2S = (NH_4)_2S$; $3NH_4HS + 2Fe(OH)_3 = 2FeS + S + 3NH_4OH + 3H_2O$; $3(NH_4)_2S + 2Fe(OH)_3 = 2FeS + S + 6NH_4OH$. The absorbing liquid was then regenerated: $4FeS + 3O_2 + 6H_2O = 4Fe(OH)_3 + 4S$; $NH_4OH = H_2O + NH_3$; $NH_4HS = H_2S + NH_3$; $3H_2S + 2Fe(OH)_3 = 2FeS + S + 6H_2O$. The yields of elementary S were 80% of the total S absorbed contg. 40-45% moisture and 20-25% Fe(OH)₃. J. S.
ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION		21

(1) AND (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15) (16) (17) (18) (19) (20) (21) (22) (23) (24) (25) (26) (27) (28) (29) (30) (31) (32) (33) (34) (35) (36) (37) (38) (39) (40) (41) (42) (43) (44) (45) (46) (47) (48) (49) (50) (51) (52) (53) (54) (55) (56) (57) (58) (59) (60) (61) (62) (63) (64) (65) (66) (67) (68) (69) (70) (71) (72) (73) (74) (75) (76) (77) (78) (79) (80) (81) (82) (83) (84) (85) (86) (87) (88) (89) (90) (91) (92) (93) (94) (95) (96) (97) (98) (99) (100)	
PROCESS AND PROPERTIES INDEX	
CH COMMON ELEMENTS MATERIAL NOTES	21 Absorption of hydrogen sulfide from gas and sulfur recovery with arsenic salts solution. S. G. Aronov. <i>Chem. and Chem. (U. S. S. R.)</i> 1933, No. 3, 47. 62-10000pts. were made to develop a method for recovery of pure S from coal-oven gas. The absorbing liquid was prepd. as follows: a soln. of Na_2CO_3 was heated to boiling, As_2O_3 soln. added and boiling continued for 2-8 hrs. ($6\text{Na}_2\text{CO}_3 + \text{As}_2\text{O}_3 + 3\text{H}_2\text{O} = 2\text{Na}_3\text{AsO}_3 + 6\text{NaHCO}_3$). The soln. was oxidized with air and pure H_2S blown through it to form Na_3AsS_3; air was blown through the soln., forming $\text{Na}_3\text{AsO}_3 + \text{S}$. The resulting soln. was used to absorb H_2S from the gas in the expts. thus: $\text{Na}_3\text{AsO}_3 + \text{H}_2\text{S} = \text{Na}_3\text{AsS}_3 + \text{H}_2\text{O}$. The soln. was regenerated by blowing air through it. For best results the absorbing soln. should contain 5 g./l. As_2O_3 and an amt. of Na_2CO_3 just sufficient for the formation of Na_3AsO_3; an excess of Na_2CO_3, although it increases the absorption of H_2S, interferes with the regeneration by promoting secondary reactions. Elementary S yields of 99% of the total S absorbed by the liquid were obtained in a single cycle. The best temps. for absorption and regeneration are 40-60°. Recovered S contained 0.5-2.0% As compds. J. S. ASD-SLA METALLURGICAL LITERATURE CLASSIFICATION SECTOR 17102170 SECTOR 17102170 SECTOR 17102170 SECTOR 17102170



1ST AND 4TH COLS

PROCESSES AND PROPERTIES INDEX

21

COMMON ELEMENTS

COMMON VARIANTS INDEX

Rapid determination of ash in coal and coke. S. G. Aronov and R. A. Treigerman. *Zavodskaya Lab.* 3, 201 (1934). -- By the method of incineration of samples wetted with HCl, HNO₃, H₂O₂ or HF, the detn. sometimes takes 10 min. and makes possible the use of coal or coke of 0.3 mm. fineness. Wet 1 g. coal (or coke) of 0.25 mm. fineness (or 2.5 g. of 0.3 mm.) in a shallow porcelain boat (or inverted crucible cover without the eye) with 4-5 drops of concd. HCl (or HNO₃) (10-15 drops for 2.5-g. sample) and ignite in a muffle furnace for 30 min. The method is accurate within 0.3-0.35%. Chas. Blanc

ASSOCIATED METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 4TH COLS

21

Causes of divergency in the ash content of coals at the
Donbas coking plant. M. G. Aronov and N. I. Medvedev.
Coke and Chem. (U. S. S. R.) 6, 100, 11, 45 (1954).
The difference between the actual and the calcd. ash
contents of coals in relation to the resp. coals is ascribed
to shortcomings of processing as partial combustion
of coke in the furnace, the use of hard water in coke
quenching, etc., and to the faulty procedure of analysis.
Methods of taking, prep., and analyzing samples of coal
and coke are described. Chas. Blane

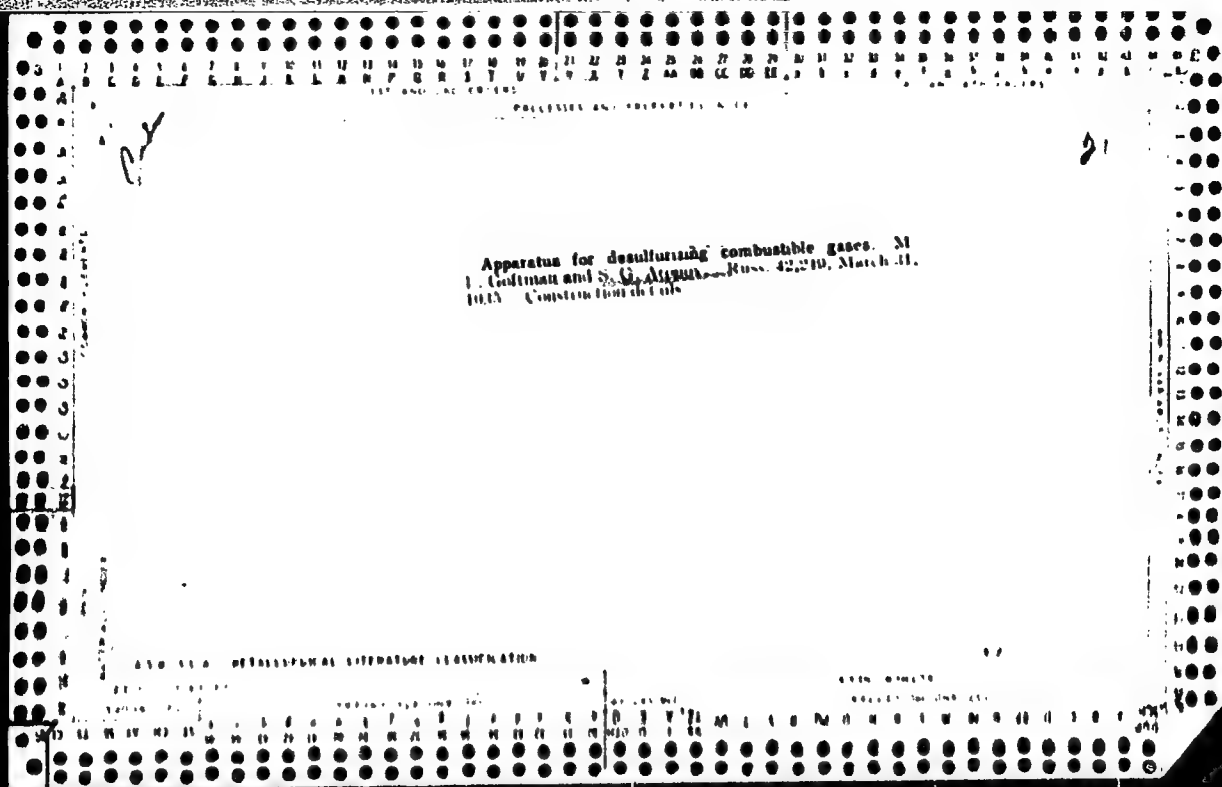
ADD-55A METALLURGICAL LITERATURE CLASSIFICATION

21

The preparation of sulfur from coke gas by a method analogous to the Taylor process on a semifactory scale in Kazakhstan. M. V. Hoffman, R. G. Aronov and H. M. Mikhel'man. *J. Chem. Ind. (Moscow)* 1934, No. 8, 17; 24; cf. C. A. 27, 2881. Coke gas is passed at the rate of 300 cu. m. per hr. through the app. described by H. and A. (C. A. 28, 2875). The liquid which absorbs the H_2S circulates at 25 l. per cu. m. of gas. It contains 6-7 g. per l. of As_2O_3 . The ratio of $NaOH$ to As_2O_3 must not exceed 3:1 unless NH_4OH is present, in which case, a slightly higher ratio is permissible. In the regenerator 30 cu. m. of air per hr. is sufficient. The whole process is run at 40° . Removal of H_2S from the gas is 10-7%; recovery of S from the soln. is 98-100%. H. M. Leicester

ASO-31A DETAILURGICAL LITERATURE CLASSIFICATION

107000 01 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100



Carbonization of Transcaucasian coals. S. G. Aronov and I. A. Kopeliovich. *Coke & Chem.* (U. S. S. R.) 1953, No. 1, 14-23.—Expts. under lab. and industrial conditions show that a good metallurgical coke can be made from a 1:1 mixt. of Tkvarcheli and Tkviuli coals under optimum conditions (described). High gas and tar yields require especially designed ovens. H. C. A.

TEST AND / OR LABELS

PROCESSING AND PREPARATION NOTES

TEST AND / OR LABELS

CH

21

Interaction between hydrogen sulfide and sulfur dioxide for recovery of elementary sulfur. S. O. Aronov and M. B. Khvat. *Coke & Chem. (U. S. S. R.)* 1935, No. 2 3, 92-7. —Coke-oven gas is passed in countercurrent through an aq. soln. of SO₂. High H₂S in the former is essential. Eighty % of the total S may be recovered in a pure state. B. C. A.

APPROVED METALLURGICAL LITERATURE CLASSIFICATION

FROM: 111 011111

RECEIVED: 111 011111

RECEIVED: 111 011111

RECEIVED: 111 011111

1ST AND 2ND ORDERS
1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

COMMON ELEMENTS

COPPER

NATIONALS MODES

CA
21

New method for the rapid determination of sulfur in coal and coke. *S. G. Arupov, M. Moliseva and R. A. Treigermann. Chem. & Chem. (U. S. S. R.) 4, No. 12, 51-4 (1958); Chemie & Industrie 33, 855; cf. C. A. 28, 51-4 (1958).*—Mix 1 g. of coal (or coke) with 3 g. of Ruchka's mixt., incinerate as usual in a muffle for 2-2.5 hrs., after cooling take up in 60-75 cc. of boiling water, titrate, wash the ppt. with a min. of hot water, to the filtrate add 5 cc. of 3% H_2O_2 , boil for 2-3 min., add 2-3 drops of phenolphthalein indicator, neutralize with concd. HCl and add 2 cc. in excess, boil for 15-20 min. to decomp. completely the H_2O_2 and carbonates and conc. the soln. to 40-50 cc., neutralize with 20% NaOH soln. to slight pink coloration, add 100 cc. of 30% alc., heat to boiling, complete neutralization (if necessary), add a measured quantity (in excess) of 0.2 N BaCl₂ and titrate the excess with 0.2 N Na_2CO_3 to a persistent rose coloration. Percentage of S = $100T/(A - B)$, in which A = cc. BaCl₂, B = cc. Na_2CO_3 , and T = S equiv. of the BaCl₂ soln.

A. Papineau-Couture

COPPER

NATIONALS MODES

ASS. S. A. METALLURGICAL LITERATURE CLASSIFICATION

ISSUED 1958
ISSUED 1958
ISSUED 1958

1958
1958
1958

PD

12

Elimination of hydrogen sulfide from industrial gases, with recovery of elementary sulfur. IV. M. V. Hottman, S. G. Aronov, S. E. Senikbenko and M. B. Khvat. Code and Title: (U. S. S. R.) 1936, No. 2 3, 91-100; cf. C. A. 29, 31401. 98.5-99% of the H_2S in coke-oven gases can be eliminated by scrubbing with aq. $(NH_4)_2AsO_4$ and 90.5% of the absorbed H_2S is recovered as S. B. C. A.

ASR-SEA METALLURGICAL LITERATURE CLASSIFICATION

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CA

2)

The use of solar oil and of solvent naphtha in the removal of phenol from waste waters. S. G. Arpov and R. A. Mishulovich. *Trudy Khar'kov. Nauch. Issledovatel. Uchebn. Inst.* 1937, No. 5-6, 74; *Khim. Referat. Zhur.* 1938, No. 6, 100-1. — In lab. expts. solar oil extd. 97-98% of phenol from soln. in distd. water. Optimum conditions for the extn. were temp. 80° , duration of contact of oil and water 3 hrs., ratio of oil to water 4:1 and stepwise extn. The extn. of phenol from waste waters amounted to only 60%, owing mainly to the selective soln. of the higher phenols, which hindered the removal of phenol from the extg. agent itself. Considerably better results were obtained with solar solvent naphtha contg. no fractions boiling above 300° . In this case the optimum conditions for the extn. of the artificial solns. of phenol were temp. 80° , ratio of oil to water 3:1, time of contact 1 hr. and repeated extn. A 90-100% removal was obtained. The higher phenols were extd. from the artificial solns. practically completely. A 3-fold extn. of the waste waters gave a 87% removal. Phenol was removed from the extg. agent without difficulty by a treatment with a 20% soln. of NaOH at 60°

W. R. Henn

ASO-56A METALLURGICAL LITERATURE CLASSIFICATION

Increasing the content of volatile material in the coal charge of coke ovens. S. G. Aronov. *Coke and Chem.* (U. S. S. R.), 7, No. 6, 27-31 (1957); *Chem. Zvesti.* 1956, 11, 2033. The admixt. of 30% of gas coke (volatile constituents 30.12%) to the ordinary foliated coal (volatile constituents 31.04%) offers a means of increasing the chem. products of coking by 25-30%. The amt. of gas, however, is increased only 10-18 cu. m. per metric ton of coal. Results of the ratel test of the coke produced are changed but little by the addn. of the gas coke to the charge of coal. A high shatter index (94.6% on the 40-mm. screen) is shown. The yield in large pieces of coke amounts to 90-7%. The porosity of this coke differs but little from that obtained from the ordinary coal charge. With the use of 40% gas coal, the appearance of the coke is poorer; it does not fuse well (is brittle) and is amorphous. M. G. M.

ASIS-STA METALLURGICAL LITERATURE CLASSIFICATION

21

Yields of chemical products of coking in relation to the content of volatile substances (in coal). S. G. Aronov and R. L. Mishulovich. *Coal and Chemistry* (U.S.S.R.), 1938, No. 1, 20-3. - The empirical formulas $x = 18.36 + 1.62x + 0.023x^2$ and $y = -1.01 + 0.144x - 0.00106x^2$ have been derived, where x , y and z are, resp., the yields of primary tar, crude C₆H₆, and volatile substances.

R. C. P. A.

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

1938-1940

1941-1945

1946-1950

1951-1955

1956-1960

1961-1965

1966-1970

1971-1975

1976-1980

1981-1985

1986-1990

1991-1995

1996-1999

Ca

THE YIELD OF GAS DURING COKING DEPENDING ON THE CONTENT OF VOLATILE SUBSTANCES IN COAL AND IN COAL MIXTURES. S. G. Aronov and B. I. Kustov. *Coke and Chem.* (U. S. S. R.) 1938, NO. 2, 17-20; *Khim. Referat. Zhur.* 2, No. 6, 97 (1939).—The compn. of gas obtained from different coals varied widely. The heat content of gases varied directly with the content of volatile substances in coal. The yield of gas from coals contg. 22-45% of volatile substances varied between 300 and 315 cu. m. (with a standard heating value of 4000 cal./cu. m.). An increase of the volatile substances by 1.0-3.8% caused an 8-10% increase of the yield of gas.

V. K. Henn

ADD-31A METALLURGICAL LITERATURE CLASSIFICATION

1st and 2nd Editors

PROCESSES AND PROPERTIES INDEX

3rd and 4th Editors

14

Methods for removing phenols from waste waters.
S. G. Aronov and B. I. Kustov. *Org. Chem. Ind.* (U. S. S. R.) 9, 95-100 (1948). A crit. discussion of European and American practice, with suggestions for improvement. Approx. 35 references. Chas. Blanc

ASAC-SLA DETAILLURGHICAL LITERATURE CLASSIFICATION

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3

21

A Laboratory Method of Determining the Amount of Residual Sulphur in Coke. S. M. Arpov and Kh. M. Moiseva. (Koks i Khimiya, 1930, No. 4-5, pp. 51-54). (In Russian). Different laboratory methods of determining the percentage of sulphur in coke made from coking coal are described. Coking in a crucible is recommended as giving the most satisfactory results. Coking in a quartz tube with absorption of the volatile sulphur compounds did not give very reliable results for the volatile sulphur content. The results of the crucible method agreed very well with those of coking on the production scale. The elimination of sulphur from coal increases with the amount of volatile material in the coal, and also depends on the proportions of the different forms in which sulphur is present in the coal.

ASD-35A METALLURGICAL LITERATURE CLASSIFICATION

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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1st and 2nd copies										PROCESSED AND PROPERTY INDEX										100 and 200 copies									
HERONOV, S. 2/										Coking of Moscow brown coal. S. Aronov. <i>Novosti Tekhniki</i> 1940, No. 11-12, 44. --Data are given on the compn. of charges and quality and yield of coke and by-products from expn. on coking Moscow brown coal. B. Z. Kamich																			
COMMON ELEMENTS OPEN INTERNAL INDEX										450-55.0 METALLURGICAL LITERATURE CLASSIFICATION FROM SYNDICATE										SECTION ONE SECTION TWO									

11

121

Coking of Moscow brown coals in mixtures with Donetsk coals. B. G. Arpury and Ya. S. Bokotin. *Trudy Khim. Nauch.-Issledovatel. Uspokhim. Inst.* 1940, No. 10, 17-22; *Khim. Referat. Zhur.* 4, No. 9, 116-17 (1941).

Moscow brown coals mixed with Donetsk coals produced a satisfactory coke. Increasing the content of brown coal in the charge to above 30% decreased the strength of coke.

W. R. Heun

ASS. S. A. METALLURGICAL LITERATURE CLASSIFICATION

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SECTION 3

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COMMON ELEMENTS		COMMON VARIABLE INDEX	
COMMON ELEMENTS		COMMON VARIABLE INDEX	
21		21	
<i>ca</i> New method of determination of the yield and the composition of the products of the coking of coal. S. G. Aronov and A. B. Eldel'man. <i>Zashchita</i> Lab. 13, 338 (1947).—The app. permits reproducible detns. on 5-7 kg. batches in 3-3.5 hrs. A furnace with temp. control, dimensions of the chamber 300 X 150 X 400 mm., is connected, in order, with a tar absorber, a Cottrell-type electrofilter (55-60 kv.), water washer, a CaCl₂ drying tube, 1 absorber with 10% H₂SO₄ and 2 with 30% NaOH, a CaCl₂ tube, an activated-C tube, a flow meter, a pump, and a gas meter. The main features are total absence of losses and exclusion of air. N. Thon			
ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION			
COMMON VARIABLE INDEX		COMMON VARIABLE INDEX	
COMMON VARIABLE INDEX		COMMON VARIABLE INDEX	

AKOINLY, S. S.

Fuel Abstracts

Vol. XV, No. 2

Feb. 1954

Carbonization

✓ 1123. UTILIZATION OF GAS COALS AND LONG FLAME COALS OF DONETS BASIN
FOR COKING INDUSTRY (ISPOL'ZOVANIE DONETSKIKH GAZOVYKH I DLINNOPLAMENNYKH
UGLEI DLYA KOISOVANIYA). Aronov, S. G. (Khar'kov: Metallurgizdat, 1949,
24pp.; title in Chem. Abstr., 1953, vol. 47, 9596).

ARONOV, S. G.

"The Determination of the Qualities and Usefulness of Coals for Coking (Opredeleniye kachestva i prigodnosti ugley dlya koksovaniya). Metallurgizdat, 1951.

USSR/Chemistry - Carbonization Process

Page 52

"The Nature of the Coal-Caking and Coking Processes," S. G. Aronov, Ukrainian Coal Chem Inst

"Zhur Prikl Khim" Vol 25, No 9, pp 927-935

This work considers the carbonization of coal, and the resultant coke and by-products, in the light of the steady growth of the use of coal as a technological raw material in the USSR, particularly in recent years. Recommends: (a) A study of the amt and compn of volatile substances formed at different stages of coking (in regard to coals

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and their petrographic components), together with a study of coking capacity by the usual methods, with the aim of fixing existing rules (in the USSR) and developing theoretical bases for the prepn of coals for coking. (b) The development of methods of reaction on the chem compn of secondary groups of reaction on the chem compn substances, both prior to their decompn (e.g., by oxidation or hydrogenation) and in the process of their breaking away and conversion (in the process of coking), with the aim of modifying the coking characteristics of coals in the proper direction.

232739

ARONOV, S.G., doktor tekhnicheskikh nauk; KULYASOV, V.A., inzhener.

Crushing and grinding of coals. Koks i khim. no.2:5-9 '55.
(MLRA 9:3)

1. Ukrainskiy uglekhimicheskiy institut (for Aronov); 2. Giprokoks
(for Kulyasov)
(Coal preparation)

ARONOV, S.G.

VODNEV, G.G.; SHELKOV, A.K.; DIDENKO, V.Ye.; FILIPPOV, B.S.; TSAREV, M.N.;
ZASHVARA, V.G.; LITVINENKO, M.S.; MEDVEDEV, K.P.; MOLODTSOV, I.G.;
IGALOV, K.I.; RUBIN, P.G.; SAPOZHNIKOV, L.M.; TYUTYUNNIKOV, G.N.;
DNITRIYEV, M.M.; LEYTES, V.A.; LERNER, B.Z.; MEDVEDEV, S.M.; REVYAKIN,
A.A.; TAYCHER, M.M.; TSOGLIN, M.E.; DVORIN, S.S.; RAK, A.I.; OBUKHOV-
SKIY, Ya.M.; KOTKIN, A.M.; ARONOV, S.G.; VOLOSHIN, A.I.; VIROZUB, Ye.V.;
SHVARTS, S.A.; GINSBURG, Ya.Ye.; KOLIANDR, I.Ya.; BELETSKAYA, A.F.;
KUSHNEREVICH, N.R.; BRODOVICH, A.I.; NOSALEVICH, I.M.; SHTROMBERG, B.I.;
MIROSHNICHENKO, A.M.; KOPELIOVICH, V.M.; TOPORKOV, V.Ya.; AFONIN, K.B.;
GOFTMAN, M.V.; SEMENENKO, D.P.; IVANOV, Ye.B.; PEYSAKHZON, I.B.;
KULAKOV, N.K.; IZRAELIT, E.M.; KVASHA, A.S.; KAPTAN, S.I.; CHERMNYKH,
M.S.; SHAPIRO, A.I.; KHALABUZAR', G.S.; SEKT, P.Ye.; GABAY, L.I.;
SMUL'SON, A.S.

Boris Iosifovich Kustov; obituary. Koks i khim. no.2:64 '55.(MLRA 9:3)
(Kustov, Boris Iosifovich, 1910-1955)

ARONOV, S.G.

✓ 702* Heating of Coal by High-Frequency Current. *Nagrev uglei tokami vysokoi chasty. (Russian.)* S. G. Aronov and In. B. Tiutunnikov. *Stal*, v. 15, no. 9 Sept-1935, p. 771-776. Rapid heating of coal charge with low energy loss up to the stage of transition of subcoke into coke; effect of appearance of electroconductivity in material on dielectric heating. semi-coke obtained by this process compared with thermal-process coke. Graphs, diagrams, tables, photograph. 0 ref.

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ARONOV, Samuil Grigor'yevich; BAUTIN, Ivan Grigor'yevich; VOLKOVA, Zoya Andreyevna; VOLOSHIN, Arkhip Il'ich; VIROZUB, Yevgeniy Vladimirovich; GABAY, Lev Izrailevich, DIDENKO, Viktor Yefimovich; ZASHKVARA, Vasil'y Grigor'yevich; IVANOV, Pavel Aleksandrovich, KUSTOV, Boris Iosifovich [deceased]; KOTOV, Ivan Konstantinovich; KOTKIN, Aleksandr Matveevich; KOMANOVSKIY, Maksim Semenovich; LMYTES, Viktor Abramovich, MOROZ, Mikhail Yakovlevich; NIKOLAYEV, Dmitriy Dmitriyevich. OBUKHOVSKIY Yakov Mironovich; RODSHTEYN, Pavel Moiseyevich; SAPOZHNIKOV, Yakov Yudovich, SENICHENKO, Sergey Yefimovich; TOPORKOV, Vasil'y Yakovlevich; CHERMNYKH Mikhail Sergeyevich; CHERKASSKAYA, Esfir' Ionovna, SHVARTS, Semen Aronovich; SHERMAN, Mikhail Yakovlevich; SHVARTS, Grigoriy Aleksandrovich; LIBERMAN, S.S., redaktor izdatel'stva; ANDREYEV, S.P., tekhnicheskii redaktor

[Producing blast furnace coke of uniform quality; a collection of articles for the dissemination of advanced practices] Poluchenie domennogo koksa postoiannogo kachestva; sbornik statei po obмену peredovym opytom. Khar'kov, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1956. 300 p. (MLRA 9:8)
(Coke industry)

ABONOV, S.G.

Fundamentals of the theory and practice for rating coals
as raw materials for coking. Trudy Lab.geol.ugl. no.6:
131-136 '56.

(MLRA 10:2)

1. Ukrainskiy nauchno-issledovatel'skiy uglekhimicheskiy
institut.

(Coal--Analysis) (Coke)

Aronov, S. G.

68-8-1/23

AUTHORS: Aronov, S. G., Doctor of Technical Science, and Moiseyeva, Kh.M.,
Candidate of Chemical Sciences

TITLE: Petrographic Separation and Separate Crushing of the Donets Coals
and Coal Blends. (Petrograficheskaya separatsiya i razdel'noye
drobleniye Donetskikh ugley i shikht).

PERIODICAL: Koks i Khimiya, 1957, No. 8, pp. 3-7 (USSR)

ABSTRACT: The distribution of macrocomponents in some characteristic types
of the Donets coals of different degree of metamorphosis and the
technological properties of these components were studied. The
following three groups of coals were investigated G6, Zh21 and OS6
(table 1). During the investigation various schemes of coal pre-
paration for coking, including schemes for petrographic separation
and crushing of coals individually were tested. (Diagram). Coals
were investigated under laboratory conditions and coking experiments
were carried out in boxes placed in ovens on the Kharkov Coke Oven
Works. The coking period 14 hours, temperature of control flues
from coke side 1375-1380°C. Properties of coarse and fine fractions
of G6 coals from three different mines, Zh21 coal and the coal blend
made from, %: G-30, K-20 and OS-20 are given in table 2. Properties
of cokes produced are given in table 3. On the basis of the results
obtained , it is concluded that crushing of gas coals separately

Card 1/2

AUTHORS: Aronov, S.G., Doctor of Technical Sciences, and 68-1-2/22
Svetlorusova, L.P.

TITLE: The Influence of the Degree of Fineness of Coals and Coal
Blends During Coking (Vliyaniye stepeni izmel'cheniya
ugley i shikhty pri koksovanii)

PERIODICAL: Koks i Khimiya, 1958, No.1, pp. 5 - 11 (USSR)

ABSTRACT: The influence of the degree of fineness of coal blends on the strength of coke produced was investigated. The authors point out that the dependence between the degree of fineness, i.e., summary surface area of coal grains in a blend and the strength of the coke produced cannot be a straight line relationship, but that there should be an optimum grain size, different for different coals. In order to prove this assumption, they investigated the following problems: a) the thickness and strength of binding layers formed by coal, passing into the plastic state, between grains of materials which do not pass into the plastic state; b) the degree of interaction between the products of thermal decomposition of grains of various coals, and c) the depth of penetration of these products during the formation of coke.

a) The experimental technique was based on the principle of Card1/6 caking a granular material which does not pass into the plastic

68-1-2/22

The Influence of the Degree of Fineness of Coals and Coal Blends
During Coking.

state with a caking coal. Donets G6 and K14 coals were used as caking components and anthracite AK, blast furnace coke, washed river sand of four different specific surface areas as non-caking components. Each caking coal (crushed below 0.2 mm) was mixed with various non-caking components in such a manner that their total weight was kept constant (6 g) while the specific surface area of additions per 1 g of coal varied from 265 to 35 700 cm². Mixtures were coked in a crucible (under a load of 10 g/cm²) in a muffle furnace at 850 ± 25 °C for 15 minutes and then the proportion of uncaked material (%) and the strength of coke (Roga index) were determined. Experimental results for anthracite admixtures shown in Fig.1. The thickness of the binding layer was calculated on the basis that a sharp change in the Roga index for both coals took place when the surface area of anthracite added was about 1 500 cm² per g of coal, thus dividing specific volume of coal in the plastic state by the covered surface; the minimum thickness of the binding layer was about 7.5 μ. The amount of uncaked residue sharply changed for G6 coal at a surface area

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The Influence of the Degree of Fineness of Coals and Coal Blends
During Coking. 68-1-2/22

of anthracite of about 5 000 cm²/g of coal and for K14 coal at 10 000 cm²/g of coal, thus indicating that the amount of plastic phase produced by the above two coals was different. The results obtained indicated the importance of specific surface area of weakly caking and non-caking components, excessively fine crushing of which has a deleterious effect on the strength of the coke produced. Similar experiments repeated with coke and sand indicated that the nature of the non-caking admixture is important. At the same specific surface area of admixtures per g of coal, the strongest coke was obtained with anthracite and the weakest with sand. b) For this investigation, samples of coke were obtained by coking in a plastometric vessel either two lumps of different coals joined together with polished surfaces or crushed coals separated during charging by a copper foil which was withdrawn before coking. From these samples, polished sections were obtained which were examined under the microscope. Coking was carried out under a pressure of 0.1 kg/cm² to a final temperature of 950 °C. The following pairs of coals were examined: OS6-G6, Zh21-OS6, Zh21-G6; (lumps); Zh21-G6,

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The Influence of the Degree of Fineness of Coals and Coal Blends
During Coking. 68-1-2/22

(crushed 5-3 mm); Zh21-OS6 (crushed 2-1 mm); Zh21-G6 (crushed below 0.2 mm); Zh21-OS6 (crushed 5-3 mm); Zh21-OS6 (crushed below 0.2 mm); G6-OS6 (crushed 5-3 mm); OS6-G6 (crushed below 0.2 mm); Zh21 (5-3 mm), OS6 (2-1 mm). The respective results are shown in figs. 2-12. It was found that some coals react only on the boundary without interpenetration, the boundary line remains clearly visible, others penetrate into each other forming a homogeneous structure. The latter coals on fine crushing showed a decrease in the interpenetration, the boundary line remains visible, while the former (OS6-G6) do not react at all, forming two separate cokes.

c) The depth of interpenetration of the products of thermal decomposition of various coals was measured, using radioactive $\text{Ca}^{45}\text{Cl}_2$ with which coal grains were coated before coking.

The experimental technique of coking was the same as for b). The results obtained are shown in figs. 13-17. The depth of penetration was found to depend on the nature of coal and its fineness. An increase in the fineness of either "penetrating" Card4/6or "receiving" coals sharply decreases the degree of penetration.

The Influence of the Degree of Fineness of Coals and Coal Blends
During Coking. 68-1-2/22

Conclusions: 1) The interaction between grains of different coals on coking blends should be considered as a topo-chemical process; thus, the presence of chemical bonds between the decomposition products can be assumed even in cases when the coal grains retain their shape. 2) The depth of penetration of the plastic mass of coals into grains or into the decomposition products of other coals is determined by the mobility of the plastic mass and by the resistance shown by coal grains to penetrating liquid phase. This phenomenon is responsible for the physical side of interaction during the formation of coke and this necessitates prevention of overcrushing of coals. 3) It can be considered that coals passing into the plastic state (of the type of the Donets fat and coking coals) should be crushed not finer than 2-1 mm and even possibly 5-3 mm. Coals of the type of Donets OS6 and G6 should also not be finely crushed. The permissible degree of fineness should also depend on the proportion of a given coal in the blend. 4) In view of the above, existing schemes of coal preparation should be re-examined in order to prevent overcrushing. It is necessary to establish norms for the limiting content of below

Card5/6

ZASHKVARA, V.G.; ARONOV, S.G., otv.red.; LIBERMAN, S.S., red.izd-va;
ANDREYEV, S.P., tekhn.red.

[Organization of the storage of coking coals] Organizatsiia
khraneniia koksuiushchikhsia uglei. Khar'kov, Gos.nauchno-
tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1959.
253 p.

(Coal--Storage)

(Coke industry)

(MIRA 12:10)

AUTHORS: Aronov, S.G., Bragilovskaya, O.N., Vershinina, S.V.,
Sintserova, L.G., and Tsepurit, V.Ya. Sov/68-59-10-1/24

TITLE: Resources of Raw Materials and Coking Technology of the
Donets Gas Coals on the Coking Gas Works

PERIODICAL: Koks i khimiya, 1959, Nr 10, pp 3-8 (USSR)

ABSTRACT: The distribution of the total output of coal from the
Donets basin indicated that gas and long flame, ie low
rank coals constitute the largest proportion (35.7%
about 29 million tons) of the coal mined. The
structure of the consumption of the mined coal (table 1)
indicated that gas coals are used mainly for power
generation. As, however, a majority of consumers
require lump coal, there is a possibility of developing
carbonisation of gas coals. Technical and economical
aspects of the above possibility were investigated and
are discussed in the paper. In 1958 the amount of
fine gas coals amounted to 5 million tons (mainly
burned in industrial and domestic grates) and will
increase in 1965 to 9 million tons. The available

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Resources of Raw Materials and Coking Technology of the Donets
Gas Coals on the Coking Gas Works

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resources of gas coals will steadily increase due to the sinking of new mines and a gradual withdrawal of gas coals from their use in railway transport. In order to obtain technical data on coking gas coals alone, laboratory and full scale carbonisation tests of two types of Donets gas coals (vol. matter about 35 and 38% respectively) were carried out. Proximate analyses of the coals tested - table 2, coking conditions - table 3, results of tests of the coke produced - table 4. It was established that a well fused coke, but of a lower size distribution and a lower strength can be obtained. The quality of the coke improves with an increasing rate of coking. In the normal size ovens the best results were obtained at a coking period of 14 hours and temperature in the control flues: coke side 1334° and pusher side 1316°C. It is considered that the construction of narrower than usual ovens for coking gas coals would permit higher coking rates at lower flue temperatures. Cokes

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